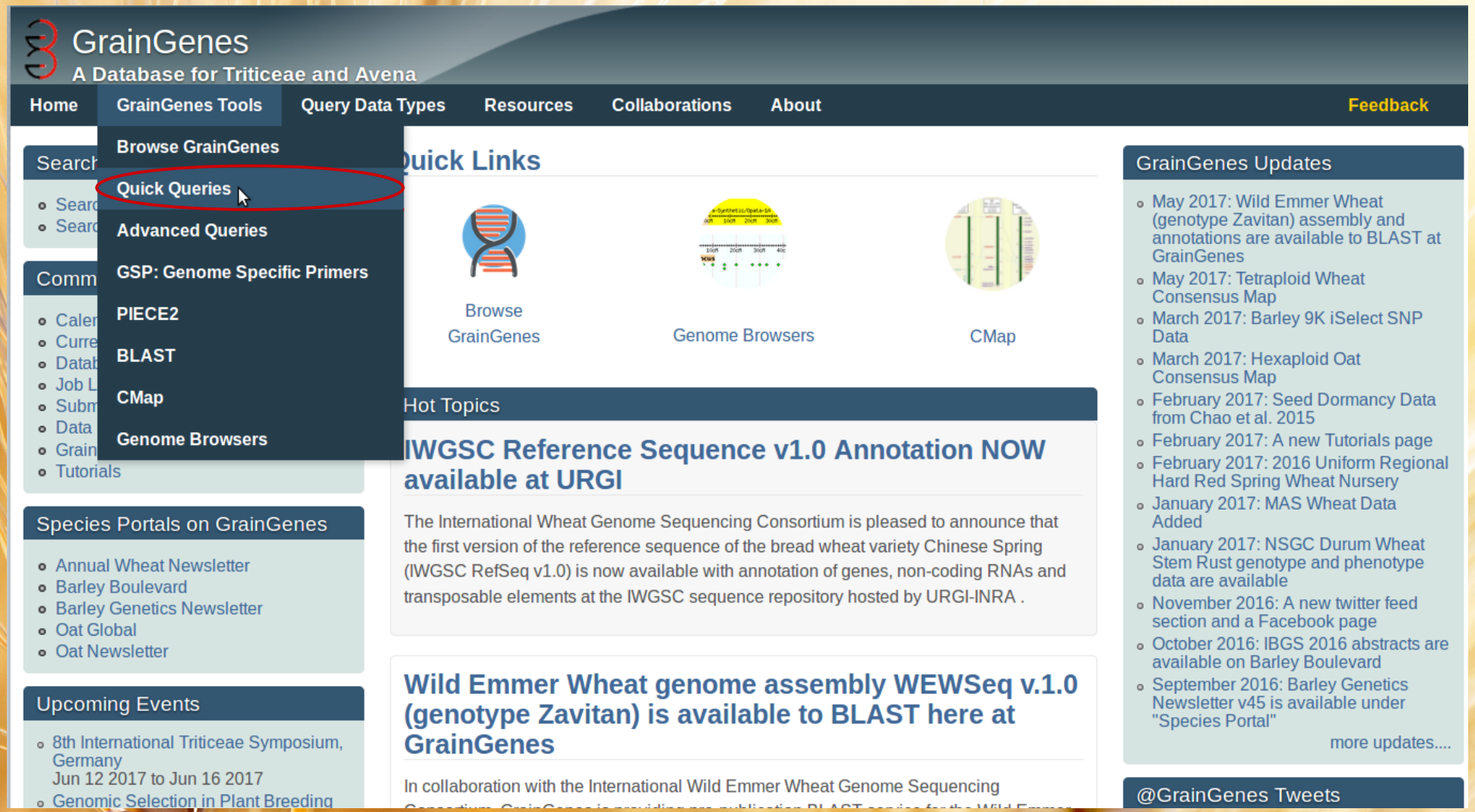
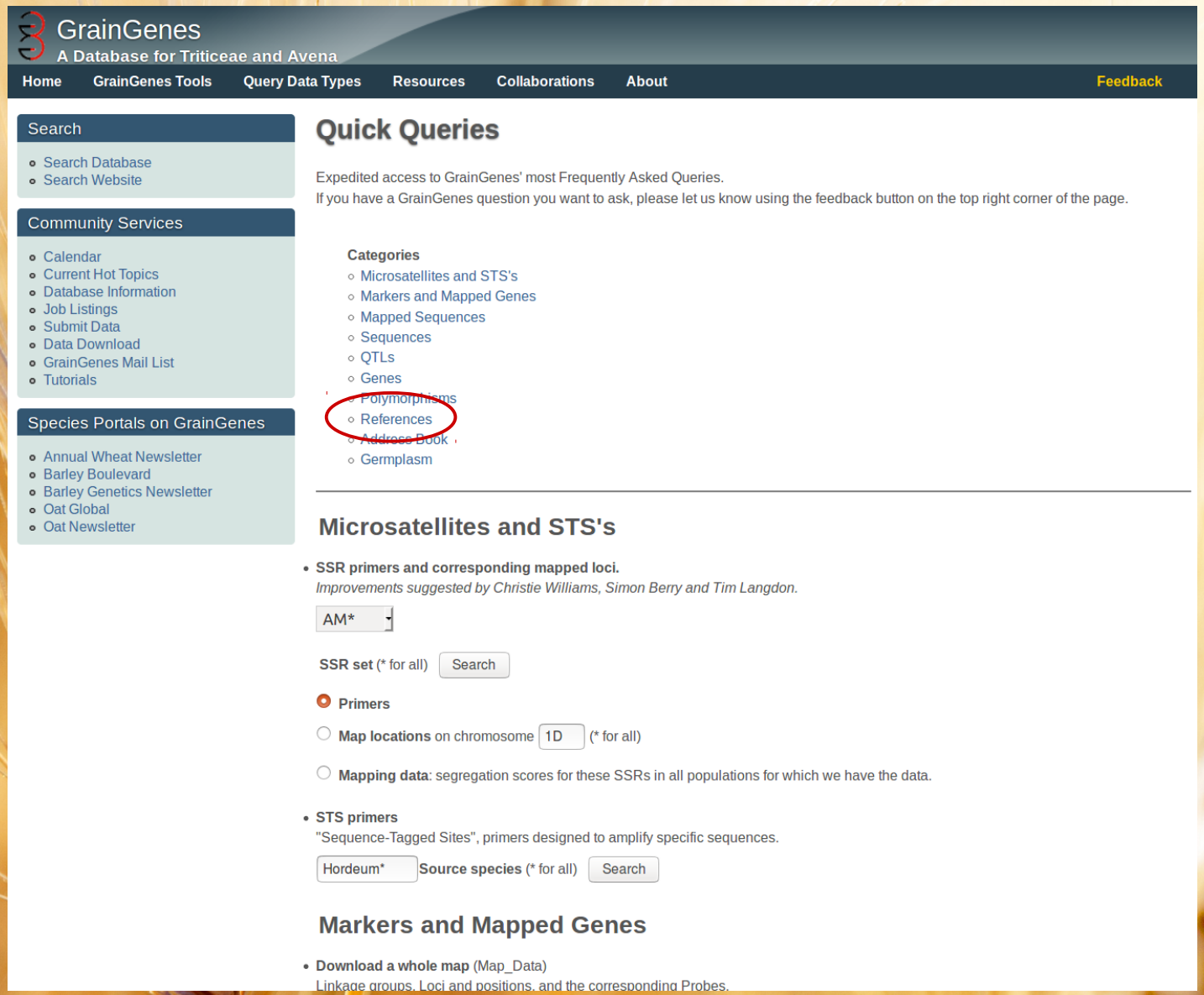
GrainGenes Tutorial: Quick Queries

https://wheat.pw.usda.gov

Quick Queries can be accessed from the GrainGenes Tools dropdown menu

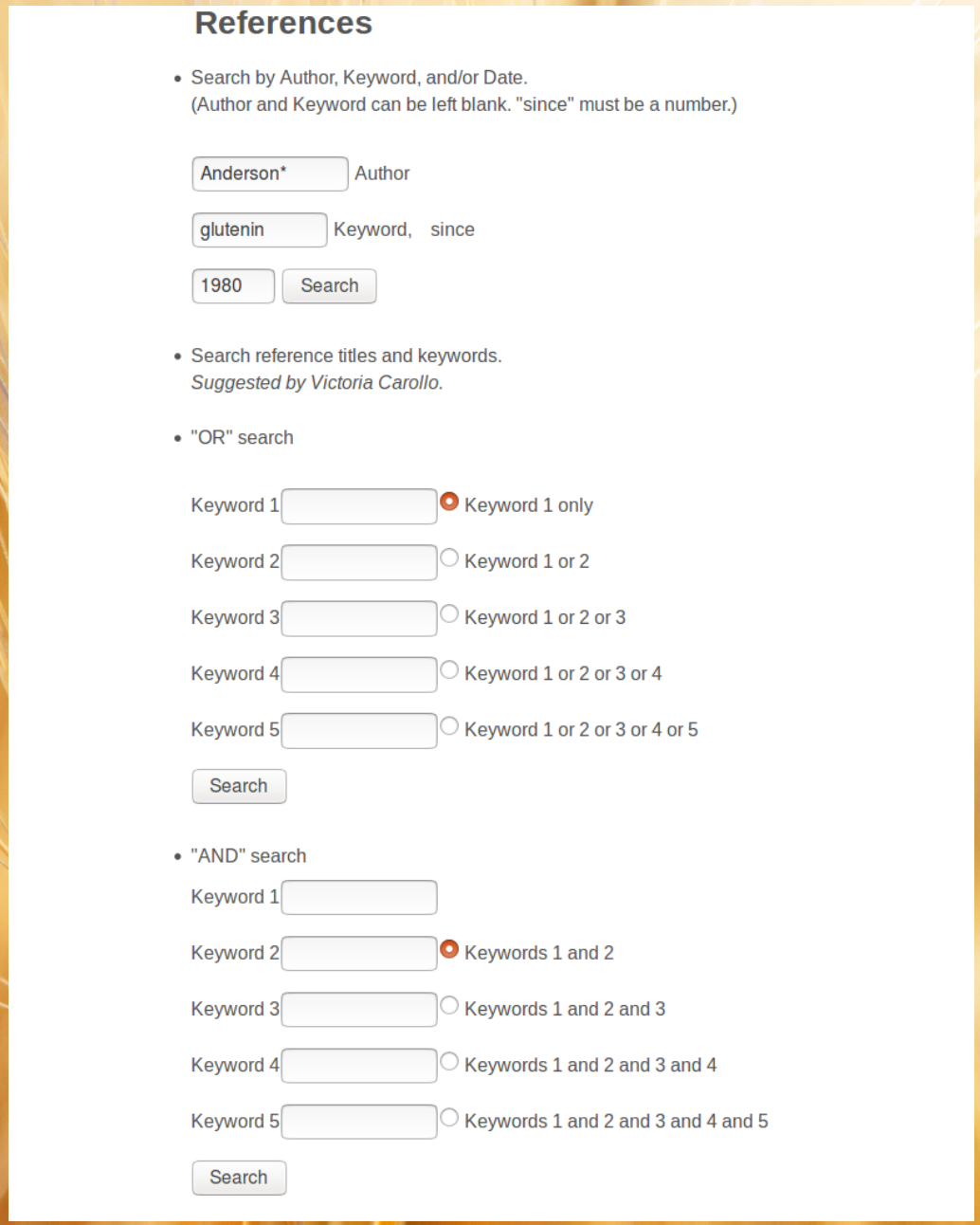


Quick Queries



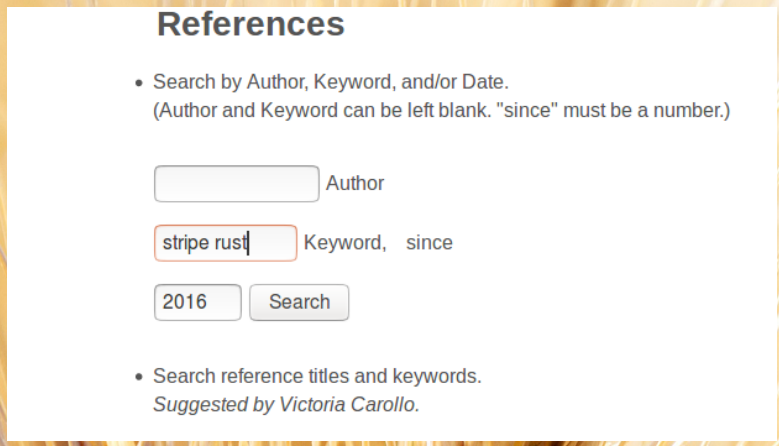
- The Quick Queries page contains pre-made queries for common database searches
- At the top of the page is a list of categories for searches
- Clicking on one will navigate you to the corresponding part of the page
- For this tutorial, we will use the References Quick Query

Quick Queries - References

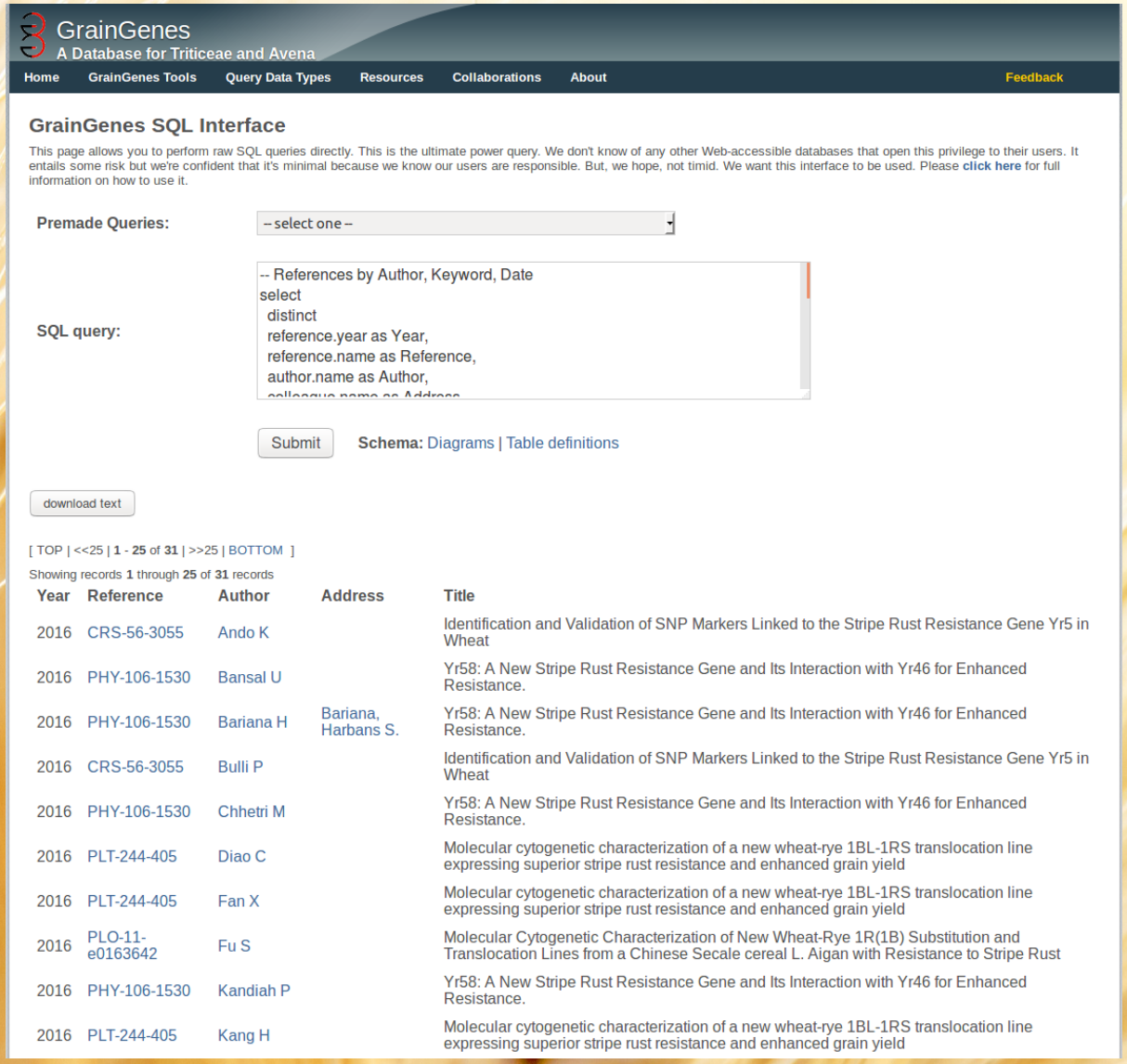


- Finding specific publications of interests an be difficult in the GrainGenes database browser because all articles are listed under their reference ids. Without knowing the id, locating a specific paper is difficult
- The References Quick Query allows you to search through publications in GrainGenes by topic, authors, and year of publication
- The “AND” and “OR” searches allow the use of multiple keywords in your search

Quick Queries - References

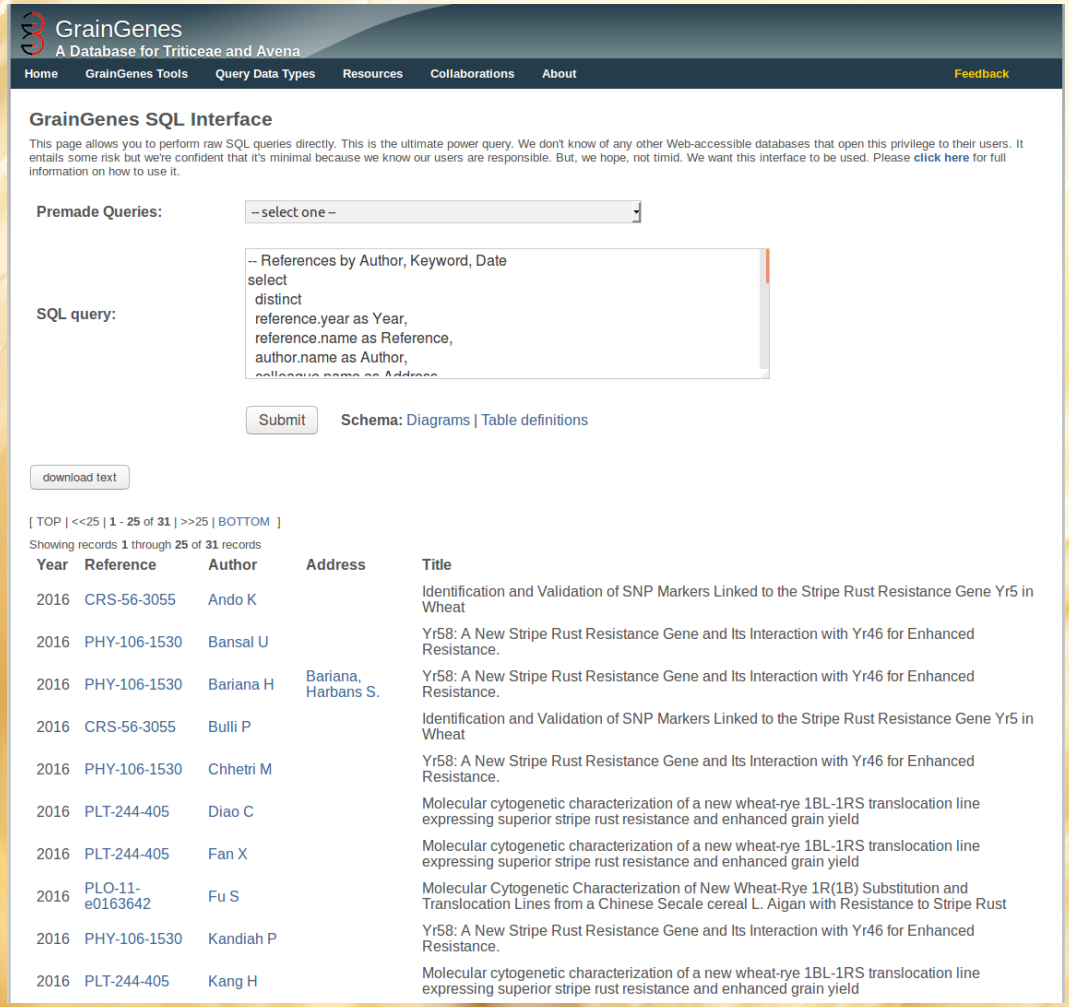


- For example, we can search for articles on stripe rust that have been published since 2016
- Enter ‘stripe rust’ as a keyword and 2016 as the years and click Search
- Our results are then pulled up in a page like the one on the right



Quick Queries - References Results

- The Results Page shows the output of our query, all articles that matched our search terms
- The actual SQL query with which we searched the GrainGenes database is shown in the box above our results
- There are some repeats in the results because the same article is listed for each of its authors.
- To consolidate them, we can make a quick adjustment to the original SQL query



GrainGenes
A Database for Triticeae and Avena

Home | GrainGenes Tools | Query Data Types | Resources | Collaborations | About | Feedback

GrainGenes SQL Interface

This page allows you to perform raw SQL queries directly. This is the ultimate power query. We don't know of any other Web-accessible databases that open this privilege to their users. It entails some risk but we're confident that it's minimal because we know our users are responsible. But, we hope, not timid. We want this interface to be used. Please **click here** for full information on how to use it.

Premade Queries: -- select one --

SQL query:

```
-- References by Author, Keyword, Date
select
 distinct
 reference.year as Year,
 reference.name as Reference,
 author.name as Author,
```

Submit **Schema:** Diagrams | Table definitions

download text

[TOP | <<25 | **1** - **25** of **31** | >>25 | BOTTOM]

Showing records **1** through **25** of **31** records

Year	Reference	Author	Address	Title
2016	CRS-56-3055	Ando K		Identification and Validation of SNP Markers Linked to the Stripe Rust Resistance Gene Yr5 in Wheat
2016	PHY-106-1530	Bansal U		Yr58: A New Stripe Rust Resistance Gene and Its Interaction with Yr46 for Enhanced Resistance.
2016	PHY-106-1530	Bariana H	Bariana, Harbans S.	Yr58: A New Stripe Rust Resistance Gene and Its Interaction with Yr46 for Enhanced Resistance.
2016	CRS-56-3055	Bulli P		Identification and Validation of SNP Markers Linked to the Stripe Rust Resistance Gene Yr5 in Wheat
2016	PHY-106-1530	Chhetri M		Yr58: A New Stripe Rust Resistance Gene and Its Interaction with Yr46 for Enhanced Resistance.
2016	PLT-244-405	Diao C		Molecular cytogenetic characterization of a new wheat-rye 1BL-1RS translocation line expressing superior stripe rust resistance and enhanced grain yield
2016	PLT-244-405	Fan X		Molecular cytogenetic characterization of a new wheat-rye 1BL-1RS translocation line expressing superior stripe rust resistance and enhanced grain yield
2016	PLO-11-e0163642	Fu S		Molecular Cytogenetic Characterization of New Wheat-Rye 1R(1B) Substitution and Translocation Lines from a Chinese Secale cereal L. Aigan with Resistance to Stripe Rust
2016	PHY-106-1530	Kandiah P		Yr58: A New Stripe Rust Resistance Gene and Its Interaction with Yr46 for Enhanced Resistance.
2016	PLT-244-405	Kang H		Molecular cytogenetic characterization of a new wheat-rye 1BL-1RS translocation line expressing superior stripe rust resistance and enhanced grain yield

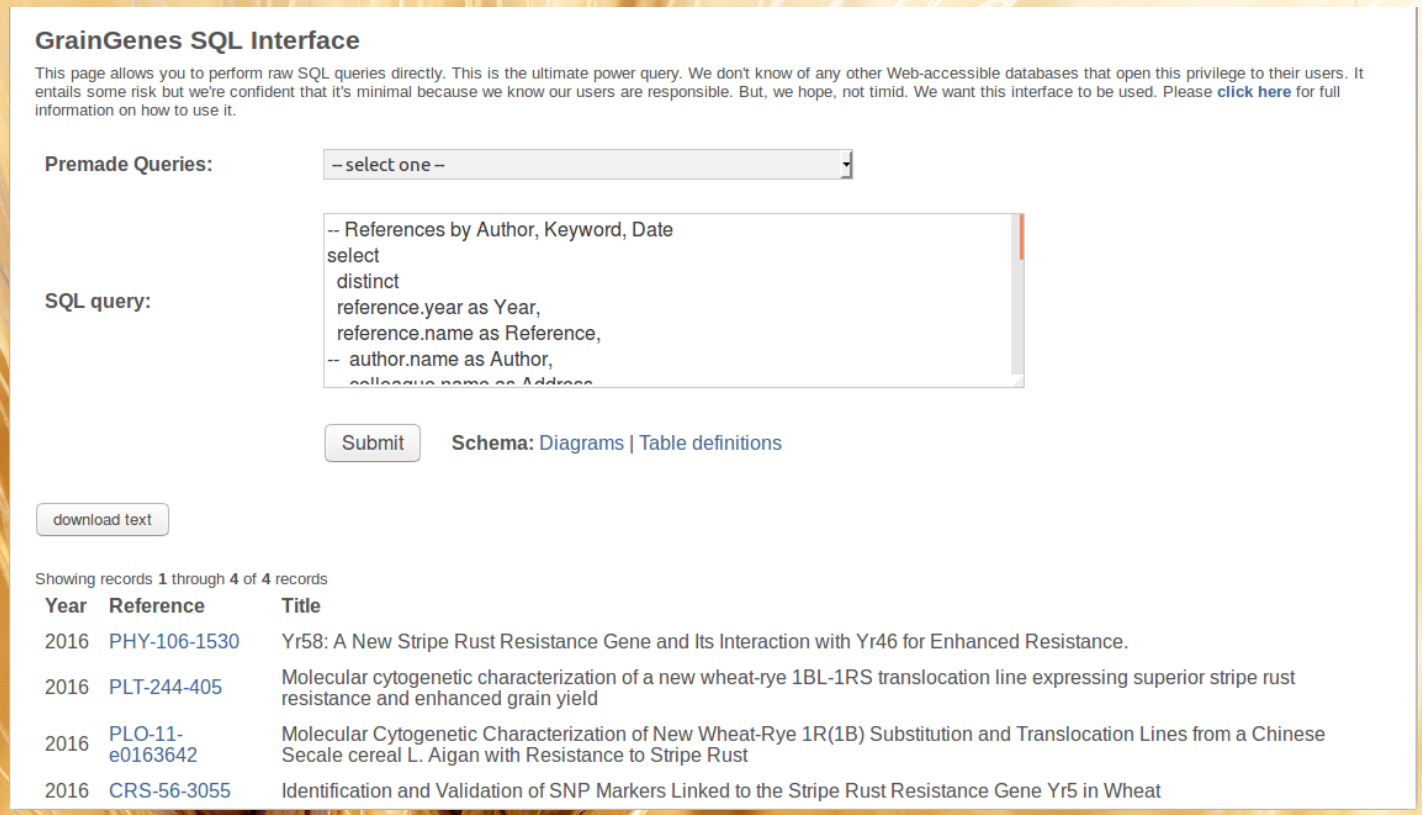
Quick Queries - Adjusting the Query

```
-- References by Author, Keyword, Date
select
  distinct
  reference.year as Year,
  reference.name as Reference,
  author.name as Author,
  colleague.name as Address,
  reference.title as Title
from reference
  inner join referenceauthor on reference.id =
referenceauthor.referenceid
  inner join author on referenceauthor.authorid = author.id
  left join colleague on author.fullname_colleagueid =
colleague.id
  -- left join to include references without Keyword data:
  left join referencekeyword on reference.id =
referencekeyword.referenceid
  left join keyword on referencekeyword.keywordid =
keyword.id
where author.name like '%'
  and ( reference.title like '%stripe rust%' or
       keyword.name like '%stripe rust%' )
  and reference.year >= 2016
order by reference.year desc, author.name
```

```
-- References by Author, Keyword, Date
select
  distinct
  reference.year as Year,
  reference.name as Reference,
  --author.name as Author,
  --colleague.name as Address,
  reference.title as Title
from reference
  inner join referenceauthor on reference.id =
referenceauthor.referenceid
  inner join author on referenceauthor.authorid = author.id
  left join colleague on author.fullname_colleagueid =
colleague.id
  -- left join to include references without Keyword data:
  left join referencekeyword on reference.id =
referencekeyword.referenceid
  left join keyword on referencekeyword.keywordid =
keyword.id
where author.name like '%'
  and ( reference.title like '%stripe rust%' or
       keyword.name like '%stripe rust%' )
  and reference.year >= 2016
order by reference.year desc
```

The above edits to the SQL query (commenting out author.name as Author, and colleague.name as Address, and removing ‘, author.name’ from the ‘order by’ statement will output a consolidated list of papers on stripe rust contained in GrainGenes that have been published since 2016

Quick Queries - Adjusted Results



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Premade Queries: -- select one --

SQL query:

```
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select
 distinct
 reference.year as Year,
 reference.name as Reference,
--  author.name as Author,
```

Submit **Schema:** Diagrams | Table definitions

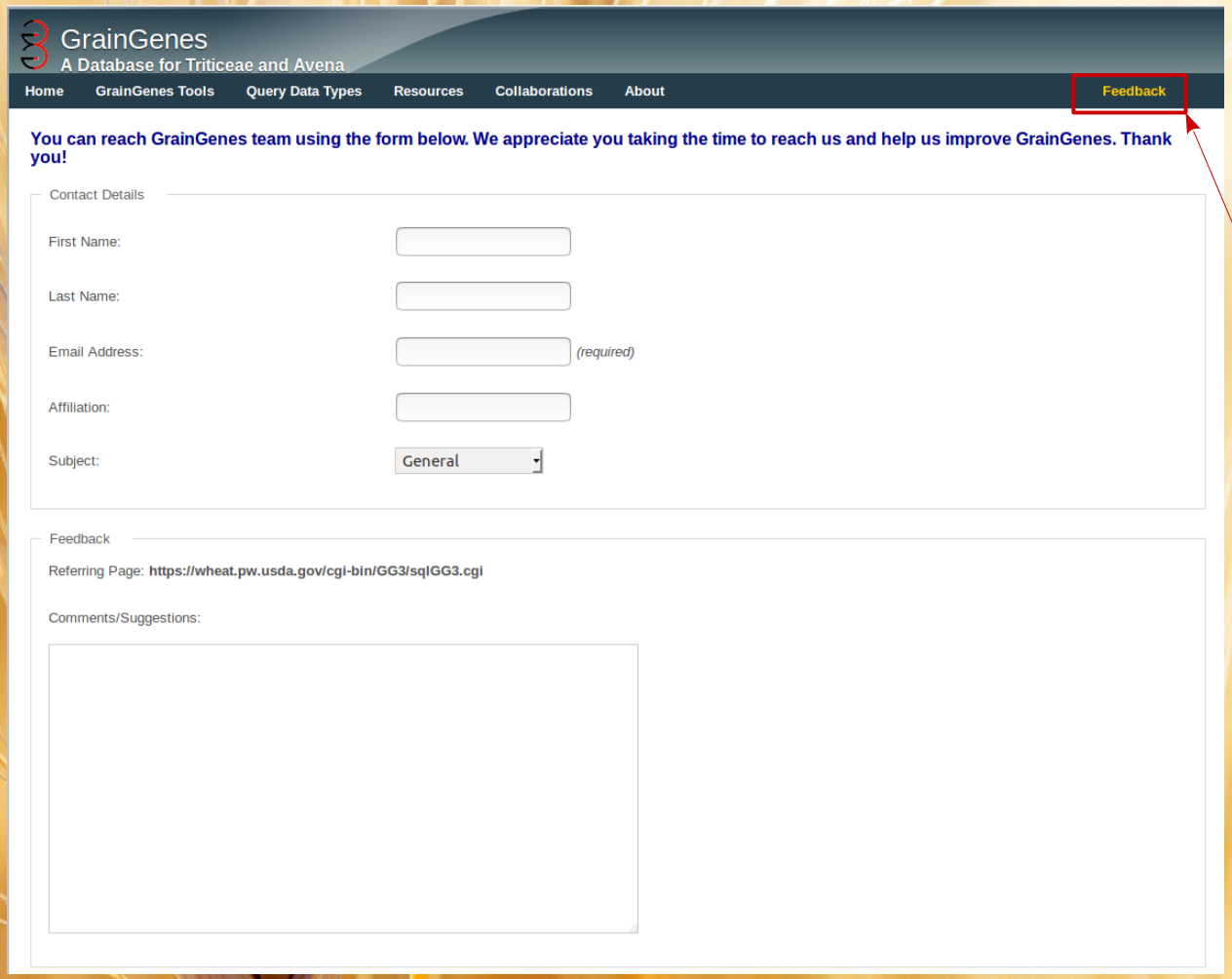
download text

Showing records **1** through **4** of **4** records

Year	Reference	Title
2016	PHY-106-1530	Yr58: A New Stripe Rust Resistance Gene and Its Interaction with Yr46 for Enhanced Resistance.
2016	PLT-244-405	Molecular cytogenetic characterization of a new wheat-rye 1BL-1RS translocation line expressing superior stripe rust resistance and enhanced grain yield
2016	PLO-11-e0163642	Molecular Cytogenetic Characterization of New Wheat-Rye 1R(1B) Substitution and Translocation Lines from a Chinese Secale cereal L. Aigan with Resistance to Stripe Rust
2016	CRS-56-3055	Identification and Validation of SNP Markers Linked to the Stripe Rust Resistance Gene Yr5 in Wheat

- By hitting Submit again, we can get the adjusted results
- There are currently four papers on stripe rust in GrainGenes
- By clicking on the Reference ID, you can see the Reference Report page for each paper
- New references are being added to GrainGenes daily!

Feedback



- If you have any questions, have suggestions for new Quick Queries, want to submit your data to GrainGenes, or anything else, please contact us!
- Our Feedback button is at the top right corner of every page, and we'd love the hear from you!